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ABSTRACT

Biographical inventory is a selection device used as an alternative or supplement to cognitive testing because this measurement method predicts aspects of job performance that are not predicted by cognitive measures. Some of the issues and concerns about using biographical inventories are discussed. The use of biographical inventories (biodata) is based on the assumptions that past behavior is a valid predictor of future behavior and that information from job applicants about previous experience can be used to predict performance. Items of a personal history can be divided into "hard" items that can easily be verified against records, and "soft" items that cannot be checked for truthfulness. The combination of "hard" and "soft" biodata items broadens the variety of information collected. Biodata items are generally cast in a short-answer or multiple-choice format. Limitations designed to protect applicants from discriminatory behavior keep certain types of information from being included on biodata inventories. Estimates of biodata reliability vary greatly with the content of items included. Predictive validity has been established for biodata over a variety of occupations. Care must be taken in constructing biodata inventories to reduce the potential for adverse impacts. There are four references. (SLD)

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USING BIODATA AS A SELECTION INSTRUMENT

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Jennifer Crafts, American Institutes for Research

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Using Biodata as a Selection Instrument

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Biographical inventory is a selection device used as an alternative or supplement to cognitive testing because this measurement method predicts aspects of job performance that are not predicted by cognitive measures. Examples of these aspects of performance are interpersonal relationships (e.g., with co-workers or clients) and motivation.

Biographical inventories have been empirically developed against such varied criteria as amount of insurance sold by life insurance agents, turnover of bank clerks, productivity of research scientists, and performance of naval personnel in diver training. Such inventories have proved valid as predictors of job performance in groups ranging from unskilled workers, office clerks, and service station dealers to chemists, engineers, and high-level executives. Personal history types of items that discriminate can provide a great deal of information about what kinds of employees remain on a job and what kinds do not, and what kinds are promotable and what kinds are not.

This Digest discusses some of the issues and concerns about using biographical inventories as well as the rationale behind them; their verifiability; their format; legal issues associated with them; evidence about their reliability; and validity and fairness.

Rationale

The assumption that underlies the use of biodata is that past behavior is a valid predictor of future behavior. More specifically, it is assumed that information obtained from job applicants about previous work experiences, education, etc. can be used to predict job performance. Items included in these inventories are selected on the basis of previous research which demonstrates significant relationships between item responses and job performance. Personal history items commonly used fall into the following areas:

- personal
- background, general
- education
- employment experience
- skills
- socioeconomic level-financial status
- social
- interests
- personal characteristics, attitudes expressed.

Verifiability

Biodata items can be differentiated on the basis of how directly and easily they can be verified. "Hard" items can be verified against records, whereas "soft" items cannot be checked for truthfulness, beyond the word of the respondent. The advantage of using only verifiable items is that individuals tend to provide honest responses. However, the range of information generated by this approach is somewhat restricted. The combination of both item types broadens the variety of information collected. However, individual subjectivity often colors responses to the soft items (e.g., items asking for opinions and interpretations). The most predictive items are those which require individuals to summarize their feelings about a range of experiences.

Format

Biodata items are typically cast into a short answer or multiple choice format, which can be objectively scored. Owens (1976) has cataloged the following types of items:

- o yes-no,
- o continuum, single choice,
- o non-continuum, single choice,
- o continuum, plus "escape option,"
- o non-continuum, plus "escape option," and
- o common stem, multiple continua.

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Owens (1976) advocates using items with response options that lie along a continuum (either apparent or demonstrated), for ease of statistical analysis.

Biodata and legal issues

Current guidelines, regulations, and statutes restrict certain types of information from being included on biodata inventories. These limitations have been imposed to protect applicants from being denied employment based on factors unrelated to jobs. Unless demonstrated to be job-relevant, items addressing race, gender, marital status, number of dependents, birth order, and spouse's occupation are not considered appropriate as a basis for selection decisions. As long as they are correlated with job success or related to "business necessity," other personal items such as grade point average or level of education can be used for personnel decisions.

Several documents have been generated that set forth the legal and technical standards for test development, use, and validation. *The Uniform Guidelines on Employee Selection Procedures, the Standards for Educational and Psychological Testing*, and *the Principles for the Validation and Use of Personnel Selection Procedures* provide frames of reference to ensure that major relevant test construction issues are addressed.

Reliability

Estimates of biodata reliability vary greatly with the specific content of items included in an inventory and with the type of reliability estimate computed. To the extent that the items measure different constructs, internal consistency estimates will be low. Thus, an inventory built from empirically keyed items, as opposed to rationally derived constructs, will usually have low item intercorrelations and therefore must be longer to increase reliability.

Validity and Fairness Evidence

Many researchers have conducted reviews of biodata validities. Results demonstrate that biodata predict a variety of job performance criteria, such as training success, job proficiency, tenure, and salary levels. Reilly and Chao (1982) conducted an extensive review of biodata predictor studies and found an average validity of .35 over many occupations and over several different criteria. The accuracy of personal history items as predictors of future work behavior was also supported by Hunter and Hunter's (1984) meta-analysis result of an average validity of .37. Ghiselli (1966) reported that biodata predictors had higher mean validities, averaged over a variety of occupations, than other types of predictors. The mean correlation with trainability was .44, and the mean correlation with job proficiency was .41.

Issues

One issue associated with the use of biodata is that almost all inventories are developed using the concurrent validation strategy. Therefore, range restriction effects are a concern. Another problem with biodata is stability of prediction. A number of studies which showed significant one-time validity results have also demonstrated that these estimates decreased over time and across situations.

Other issues of concern for biodata are accuracy, fakeability, invasion of privacy, and adverse impact. Very little information exists to support or refute allegations of inaccuracy, invasion of privacy, or fakeability. Owens (1976) reviewed investigations of adverse impact and reported that "the major dimensions of biodata responses are quite stable across cultures, age, race, and sex groups, and companies." Adverse impact may depend on the degree to which items elicit information that directly or indirectly reflects cultural differences in social, educational, or economic advancement opportunities. Thus, in constructing inventories, care must be taken to include items with potential for reducing adverse impact.

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